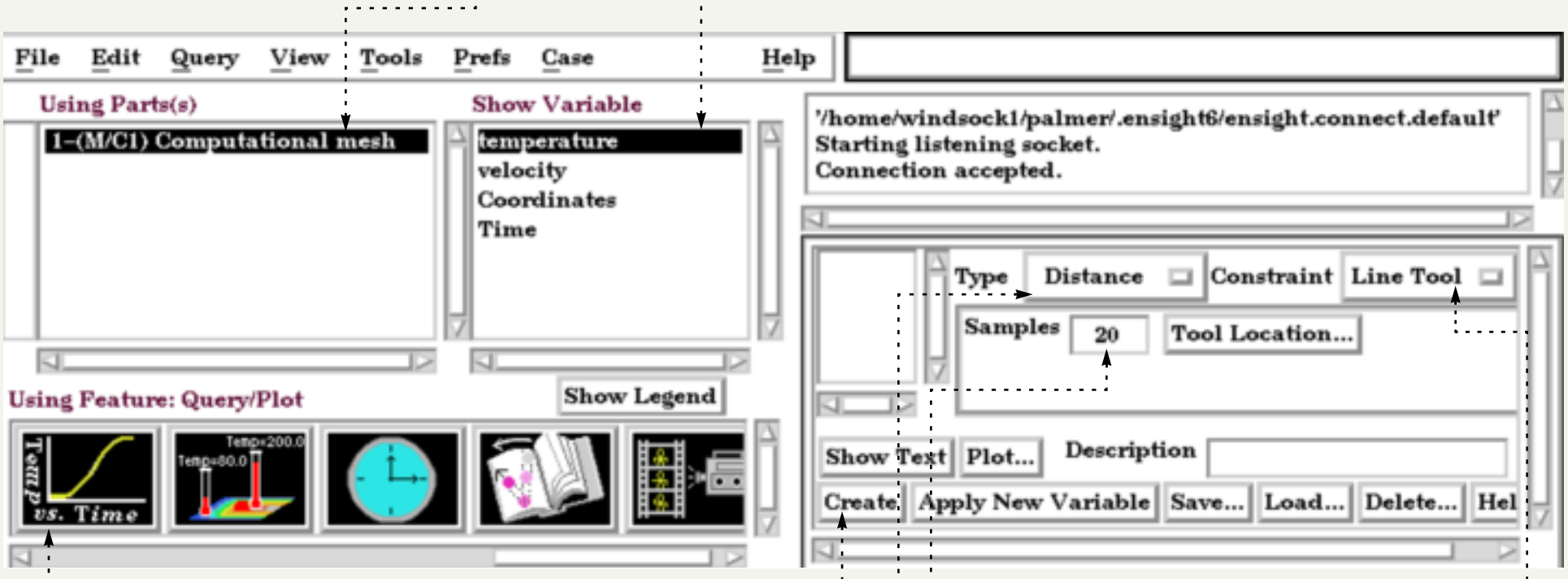
Introduction

EnSight can query for variable values over space using either the Line Tool or the nodes of a 1D part. The result is a Query Entity that can be plotted using EnSight's built-in plotting facility. Query Entities can also be written to disk files.

Query results can be quickly displayed using EnSight's built-in **plotter**.

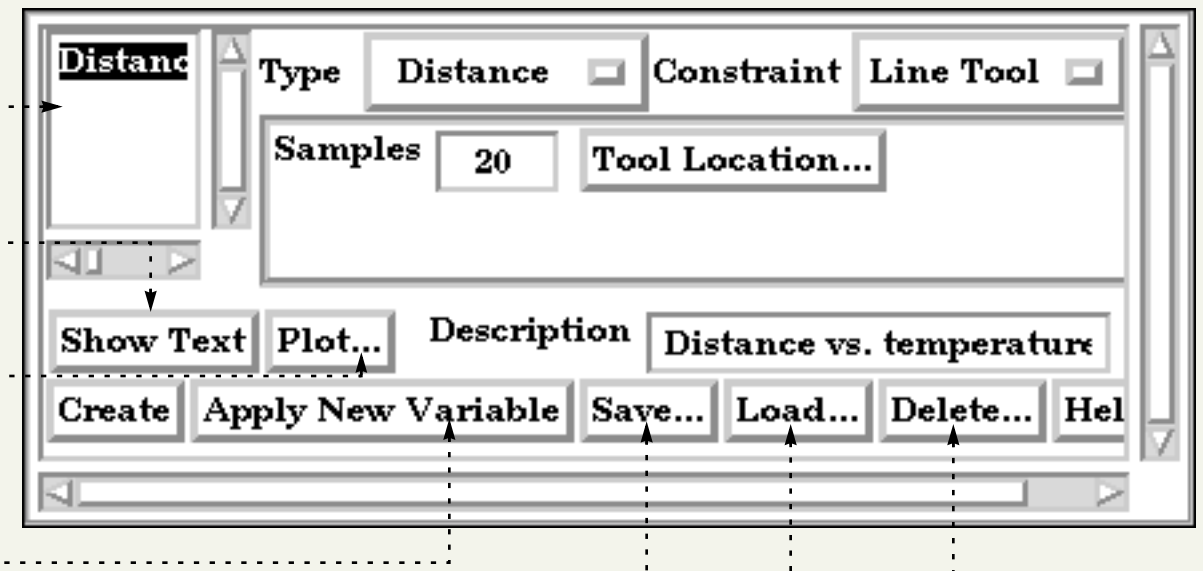
Basic Operation

Query Using the Line Tool



Managing Query Entities

The Quick Interaction area provides various controls for managing existing Query Entities:



List of current Query Entities. Selected items are operated on by the following actions.

Print the text of the selected Query Entity to the Status History Area.

Plot the selected Query Entity.

Change the query variable (select the new variable in the Main Variables list first) of the selected Query Entity.

Save the selected Query Entity to a disk file.

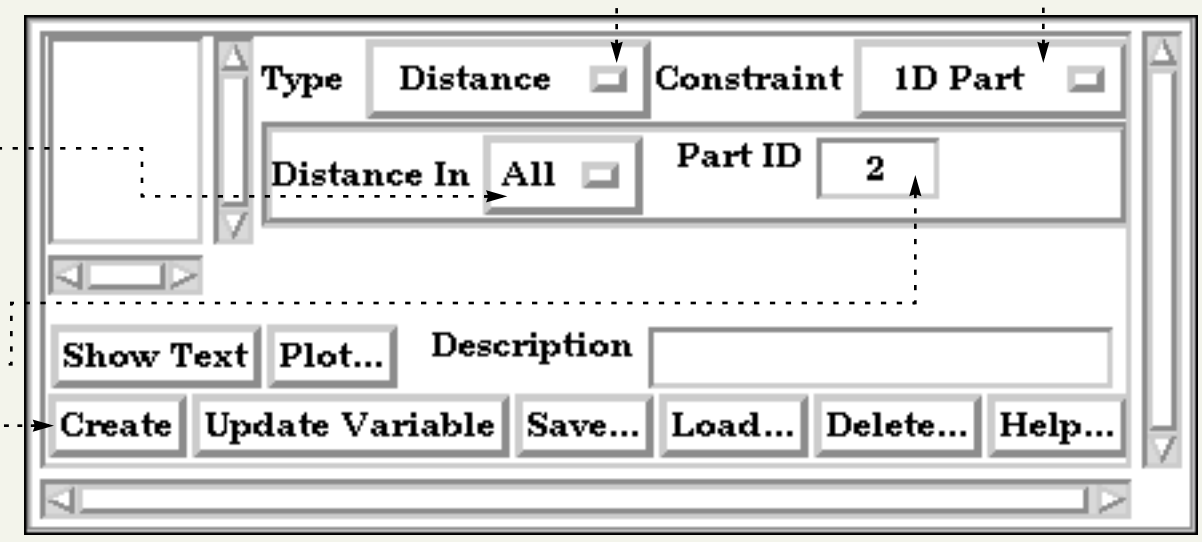
Load from a previously saved Query Entity.

Delete the selected Query Entity.

Query Using a 1D Part

EnSight can also perform queries using the nodes of a 1D part. One-dimensional parts include model parts consisting of bar elements, 1D (Line) Clips, and particle traces.

1. **Select the desired variable to query in the Main Variables list.**
2. **Select Query Over Time Distance**
3. **Set the Type to Distance**
4. **Set the Constraint to 1D Part.**
5. **Set the desired distance metric (see below).**
6. **Enter the part number (from the Main Parts list) of the desired 1D part.**
7. **Click Create.**



The variable is plotted against the selected “Distance In” metric. The node with the lowest node ID number is queried first. Since the nodes are not necessarily evenly spaced, the reported distance is one of the following:

Distance In Setting	Reported Distance
All	The distance along the part from the first node to each subsequent node (*i.e.* the sum of the 1D element lengths)
X	The X coordinate value of each node
Y	The Y coordinate value of each node
Z	The Z coordinate value of each node

If the 1D part contains more than one set of contiguous 1D elements (such as a particle trace from a Line emitter),

the resulting query will contain one plot entity for each set.

Other Notes

You can load arbitrary plot data into EnSight (using the Load... button) no matter where it was computed – as long as you conform to the proper file format. This is particularly useful when you need to compare experimental data with computational results. See **XY Data Format** in the User Manual for a description of the plot file format.

See Also

How To Query Over Time, **How To Probe Interactively**, **How To Plot Query Results**.

User Manual: **Query/Plot**